

Boffins 9

100M. Everything we use is called a 'material'. Material does not just mean cloth. Some materials have been changed to look completely different to they way they began.

Answer these questions:

- 1) From what natural material is glass made?
- 2) From what is the paper you are writing on made?
- 3) What is used to make the cups you drink from?
- 4) What natural material is used to make the plastic tables you sit at? 2 points for each answer
- 5) From what are the bricks in your house made? Points:
.....

Javelin: Many materials come from natural sources. Some come from underground and others come from living things.

Sort these natural materials into two groups: 'Underground' and 'Living Things'.

- | | |
|-------------------|----------------------|
| 1) oil | 6) oak walking stick |
| 2) pine furniture | 7) clay pot |
| 3) woolen jumper | 8) iron gate |
| 4) stone birdbath | 9) leather shoes |
| 5) roof slate | 10) rubber tyre |

Some materials are made in factories. They are called 'synthetic' materials. Sort these materials into 'Natural' and 'Synthetic'.

- | | | |
|----------------------|----------------------|---------------------------------|
| 11) nylon shirt | 16) linen tablecloth | <u>Points:</u> 1 to 3 = 1 point |
| 12) cotton skirt | 17) gold ring | 4 to 7 = 3 points |
| 13) silk tie | 18) polyester blouse | 8 to 12 = 5 points |
| 14) plastic bucket | 19) marble monument | 13 to 15 = 8 points |
| 15) fibreglass model | 20) rayon dress | 16 to 19 = 9 points |
| | | 20 = 10 points |

Points:

200M. Some materials let heat pass through, (thermal conductors). Others don't, (thermal insulators).

Which of these are thermal insulators, (write IN), and which are conductors, (write CON)?

- | | |
|-----------------------------|------------------------------|
| 1) steel pan | 6) metal radiator |
| 2) wooden handle on the pan | 7) cork cup stand |
| 3) oven glove | 8) woolen jumper |
| 4) pyrex glass dish | 9) wires in electric blanket |
| 5) plastic kettle | 10) polystyrene cup |
- Points:

Discus:

- 1)Hard
- 2)Strong
- 3)Transparent
- 4)opaque
- 5)Rigid
- 6)Flexible
- 7)will stretch
- 8)will compress
- 9)absorbent
- 10)waterproof

- A) wellies
- B) window blind
- C) hammer head
- D) glass clock-face
- E) elastic band
- F) ladder
- G) concrete bridge
- H) nappy
- I) spring
- J) string

One point for each correct answer.

Points:

Weight Lifting: Answer just one of these questions.

- 1) Name two materials that can be recycled. (2 points)
- 2) Give two reasons why an anchor is made from steel? (4 points)
- 3) Explain which way heat travels. (6 points)
- 4) How are materials mixed to make concrete? (8 points)
- 5) How does a thermos flask keep things warm or cold? (10 points)

Points:

Steeple Chase: Answer these questions.

- 1) What does an electrical conductor do?
- 2) What does an electrical insulator do?
- 3) Which metal is usually used in electrical wires?
- 4) Which material is usually used to wrap electrical wires?
- 5) Which of these materials is an insulator and which is a conductor of electricity?
a) wood, b) iron, c) aluminium d) glass e) rubber
- 6) Why are electrical plugs made from plastic?
- 7) Give two reasons why light bulbs, (lamps), are made from glass.
- 8) Why should you never touch an electrical output with wet hands?
- 9) Why do screwdrivers have plastic handles?
- 10) Electricity can only flow if it has a complete c..... of electrical conductors.

One point for each correct answer.

Points:

Total Points: